

ROBINSON 10/543,146

? SHOW FILES

File 8:Ei Compendex(R) 1884-2007/Jan W1  
(c) 2007 Elsevier Eng. Info. Inc.  
File 31:World Surface Coatings Abs 1976-2006/Jan  
(c) 2006 PRA Coat. Tech. Cen.  
File 240:PAPERCHEM 1967-2007/Jan W1  
(c) 2007 Elsevier Eng. Info. Inc.  
File 323:RAPRA Rubber & Plastics 1972-2007/Jan  
(c) 2007 RAPRA Technology Ltd  
File 347:JAPIO Dec 1976-2006/Sep(Updated 061230)  
(c) 2007 JPO & JAPIO  
File 350:Derwent WPIX 1963-2006/UD=200704  
(c) 2007 The Thomson Corporation  
File 953:Ei EnCompassPat(TM) 1964-200703  
(c) 2007 Elsevier Eng. Info. Inc.  
File 954:Ei EnCompassLit(TM) 1965-2007/Jan W2  
(c) 2007 Elsevier Eng. Info. Inc.

? DS

Set	Items	Description
S1	16301	POLYISOBUTYLENE? ? OR (POLY OR POLYM? ? OR POLYMERIC? OR P- OLYMERIZ? OR POLYMERIS? OR HOMOPOLYM? OR RESIN? OR GUM? ?) (2N- ) (ISOBUTYLENE? ? OR ISO(2N)BUTYLENE? ?)
S2	133577	WAX OR WAXES OR WAXS OR WAXY OR WAXINESS? OR WAXED OR WAXI- NG? ?
S3	115255	PARAFFIN?? OR PARAFIN?? OR BEESWAX? OR BEE? ?(2N)WAX?
S4	541	ROSIN?(2N) (ALC? ? OR ALCOHOL??)
S5	163	ABIETINOL? ? OR ABIETOL? ? OR (ABIETYL? OR HYDROABIETYL? OR TETRAHYDROABIETYL?) (2N) (ALC? ? OR ALCOHOL??)
S6	5	S1 AND (S2 OR S3) AND (S4 OR S5)
S7	5	RD S6 (unique items)

? T S7/34/1-4

7/34/1 (Item 1 from file: 350)  
DIALOG(R) File 350:Derwent WPIX  
(c) 2007 The Thomson Corporation. All rts. reserv.

0015055390 - Drawing available  
WPI ACC NO: 2005-403414/200541

Preparation of a phase change ink composition for color printing, involves  
mixing pigment particles of a polar carrier component with a dispersant,  
extruding the mixture and subjecting the resulting mixture to high shear

mixing

Patent Assignee: XEROX CORP (XERO)

Inventor: HAWKINS M S; KAO S V; MAHABADI H K; RAYMOND; SMITH P F; TUREK C M ; WONG R W

Patent Family (5 patents, 39 countries)

Patent Application

Number	Kind	Date	Number	Kind	Date	Update
US 20050113482	A1	20050526	US 2003721851	A	20031125	200541 B
EP 1535974	A1	20050601	EP 200426872	A	20041111	200541 E
JP 2005154773	A	20050616	JP 2004339788	A	20041125	200541 E
BR 200405173	A	20050712	BR 20045173	A	20041124	200547 E
CN 1637085	A	20050713	CN 200410095399	A	20041124	200576 E

Priority Applications (no., kind, date): US 2003721851 A 20031125

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 20050113482	A1	EN	20	0	
EP 1535974	A1	EN			

Regional Designated States,Original: AL AT BE BG CH CY CZ DE DK EE ES FI

FR GB GR HR HU IE IS IT LI LT LU LV MC MK NL PL PT RO SE SI SK TR YU

JP 2005154773 A JA 20

BR 200405173 A PT

Alerting Abstract US A1

NOVELTY - Preparation of a phase change ink composition comprising a phase change ink carrier containing at least one non-polar component and at least one polar component.

DESCRIPTION - Preparation of a phase change ink composition comprising a phase change ink carrier containing at least one non-polar component and at least one polar component, and pigment particles, involves selecting at least one of the polar carrier components to be a pigment particle dispersant, mixing the pigment particles with the dispersant, extruding the mixture of pigment particles and dispersant at a temperature that is  $\geq$  the peak crystallization temperature of the dispersant and below the peak melting temperature of the dispersant, to form a pigment dispersion, subsequent to extrusion of the pigment dispersion, adding to the pigment dispersion any remaining polar components and the non-polar component and subjecting the resulting mixture of pigment dispersion, polar component, and non-polar component to high shear mixing to form an ink.

USE - For the preparation of a phase change ink composition useful for color printing, postal marking, industrial marking and labeling.

ADVANTAGE - The method provides improved phase change inks, having pigment colorants, where the pigment particles are stable and uniformly dispersed within the ink formulation. The method provides ink sets of different colored inks, where some inks have pigment colorants and some inks have dye colorants, and where the other ink components remain the same for both the pigment-based inks and the dye-based inks. The method provides

phase change inks containing pigment colorants that have increased stability and light-fastness at elevated temperatures, thus enabling improved fade resistance upon exposure to heat and light, reduced diffusion of the colorant from the ink to paper, thus enabling reduced show-through, and reduced diffusion of colorants from image areas of one color to image areas of another color, to provide improved image quality. The pigment colorants exhibits reduced agglomeration and settling in the ink when the ink is exposed to prolonged and excessive heating conditions, such as the temperatures (typically at least 110(deg)C and frequently at least 135(deg)C) and time periods (typically at least a day, and frequently at least a week) to which phase change inks are exposed in phase change ink jet printers. The phase change inks exhibit reduced clogging of jets in the printhead and reduced printhead failure that might be caused by agglomeration of the pigment colorant in the ink. A relatively high viscosity formulations can be processed effectively under high shear conditions using the phase change inks.

#### Technology Focus

IMAGING AND COMMUNICATION - Preferred Composition: The phase change ink carrier comprises (wt.%) stearyl stearamide (at least 8 or ^> 32), the dimer acid based tetra-amide (at least 10 or ^> 32), polyethylene \*\*\*wax\*\*\* (25 or ^> 60), urethane resin derived from the reaction of two equivalents of \*\*\*hydroabietyl\*\*\*\*\*alcohol\*\*\* and one equivalent of isophorone diisocyanate (6 or ^> 16), a urethane resin that is the adduct of three equivalents of stearyl isocyanate and a glycerol-based alcohol (at least 2 or ^> 13) and an antioxidant (at least 0.01 or 1). The ink further contains a polyalkylene succinimide and a dye.

POLYMERS - Preferred Components: The non-polar component is a polyethylene \*\*\*wax\*\*\*. The polyalkylene succinimide is formula (I) (preferably \*\*\*polyisobutylene\*\*\* succinimide).

x,y= 1 - 3;

a= at least 2 or ^> 500;

R2',R3'= H;

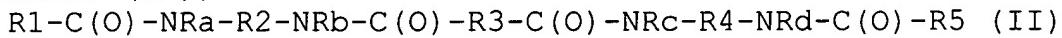
R4'= H or methyl;

R5'= methyl.

Preferred Composition: The concentration of polyalkylene succinimide in the ink is at least 1x10<sup>-7</sup> (preferably 1x10<sup>-5</sup>) wt.% or at least 0.001 (preferably at least 0.005, especially at least 0.01) wt.% or ^> 40 (preferably ^> 30, especially ^> 20, particularly ^> 10) wt.%.

ORGANIC CHEMISTRY - Preferred Components: The dispersant is a

tetra-amide, a monoamide and/or a urethane (preferably a tetra-amide of formula (II))



or dimer acid based tetra-amide that is the reaction product of dimer acid, ethylene diamine, and a long chain greater than 30C hydrocarbon having a terminal carboxylic acid group. The polar component comprises a tetra-amide, a monoamide, and a urethane. The pigment particles have acidic or basic functional groups on the surfaces. The dye is a phthalocyanine.

Ra - Rd= t1;

t1= alkyl, aryl, arylalkyl or alkylaryl  
(all optionally substituted and  
optionally having at least one  
hetero atom selected from t2) or H;

R2,R4= T (preferably -CH<sub>2</sub>CH<sub>2</sub>);

T= alkylene, arylene, arylalkylene or  
alkylarylene (all optionally  
substituted and optionally having at  
least one hetero atom selected from  
t2);

t2= oxygen, nitrogen, sulfur, silicon  
and/or phosphorus;

R1,R5= t1 (preferably -(CH<sub>2</sub>)<sub>16</sub>CH<sub>3</sub> or  
-(CH<sub>2</sub>)<sub>n</sub>CH<sub>3</sub>);

n= 47 or 48;

R3= T (preferably branched unsubstituted  
34C alkyl).

Preferred Composition: The concentration of the pigment in the ink is at least 0.1 (preferably at least 0.2, especially at least 0.5) wt.% or > 50 (preferably > 20, especially > 10) wt.%. Preferred Method: The pigment particles and the dispersant in powder form are mixed prior to extrusion. The relative amounts of pigment particles and dispersant for the extrusion is at least 0.1 (preferably > 20) pbw dispersant per every 1 pbw pigment. The viscosity of the mixture of pigment particles and dispersant for the extrusion is at least 10 (preferably > 10000, especially > 1000) centipoise. The extrusion is carried out at a screw rotation rate of at least 40 (preferably > 100) revolutions per minute (rpm), at a temperature of peak crystallization temperature - 30 (preferably 20, especially 10)% above the peak crystallization temperature; or at a temperature range of >= 10 (preferably >= 15, especially >= 20) % below the peak melting

temperature. Subsequent to extrusion of the pigment dispersion and prior to adding to the pigment dispersion any remaining polar components and the non-polar component, the pigment dispersion is subjected to high shear mixing. The viscosity of the pigment dispersion during high shear mixing is at least 200 (preferably  $> 10000$ , especially  $> 1000$ ) centipoise. The pigment dispersion; and the mixture of pigment dispersion, polar component, and non-polar component are subjected to high shear mixing with a rotor/stator mixer operating with a tip speed of at least 7 (preferably at least 12) meters per second, at, at least 1000 (preferably at least 5000, especially at least 7500) rpm, at a shear rate of at least 5000 s<sup>-1</sup> and at a shear stress of at least 50 kg/meter.

#### Extension Abstract

EXAMPLE - A tetra-amide resin obtained from the reaction of a 36C dimer acid (1 equivalent) with ethylene diamine (2 equivalents) and UNICID 700 (RTM; a long chain hydrocarbon having a terminal carboxylic acid group), which had a peak crystallization temperature of 85(deg)C and a peak melting temperature at 120(deg)C, originally in the form of chips or chunks, was processed through a blender to powder form. Then the powdered tetra-amide resin (750.72 g) and Special Black 4 carbon black (239.7 g) were blended for 30 minutes at 0.8 atmospheres. Subsequently, the powder mixture was extruded at a rate of 1 pound per hour, at 80(deg)C and 50 revolutions per minute (rpm) with the outlet temperature set at 96(deg)C, to prepare a pigment dispersion. In a first beaker were mixed and melted the pigment dispersion (61.98 g) and KEMAMIDE S-180 (RTM; stearyl stearamide) (63.84 g). The resulting mixture was heated at 135(deg)C for 1 hour. In a second beaker were mixed and melted POLYWAX 655 (RTM; polyethylene \*\*\*wax\*\*\*) (123.93 g), urethane resin (34.86 g) obtained from the reaction of ABITOL E (RTM; \*\*\*hydroabietyl\*\*\* \*\*\*alcohol\*\*\*) (2 equivalents) and isophorone diisocyanate (one equivalent), a urethane resin (14.79 g) that was the adduct of stearyl isocyanate (three equivalents) and a glycerol-based alcohol and NAUGARD N445 (RTM; antioxidant) (0.6 g). This mixture was heated at 135(deg)C for 1 hour and heated with stirring at 135(deg)C for 1 additional hour. Then the contents of the second beaker were added to the contents of the first beaker and heating and stirring at 135(deg)C was continued for an additional 1 hour. Subsequently, the mixture was subjected to high shear at 10000 revolutions per minute (rpm) for 3 minutes with the temperature maintained below 140(deg)C. The resulting ink composition was then filtered at 135(deg)C to remove from the ink any large particles.

#### Class Codes

International Classification (Main): B29C-047/00, C09D-011/00  
(Additional/Secondary): B29C-047/38, B41J-002/01, B41M-005/00, C03C-017/00  
International Classification (+ Attributes)

IPC + Level Value Position Status Version

C09D-0011/00 A I R 20060101

C09D-0011/00 C I R 20060101

US Classification, Issued: 523160000, 264211000, 264349000, 264211210,  
106031610

7/34/2 (Item 2 from file: 350)  
DIALOG(R) File 350:Derwent WPIX  
(c) 2007 The Thomson Corporation. All rts. reserv.

0014945300

WPI ACC NO: 2005-293058/200530

Ink composition for color printing, postal marking, industrial marking, and labeling, comprises ink carrier comprising monoamide and/or tetra-amide, polyalkylene succinimide, and pigment particles

Patent Assignee: XEROX CORP (XERO)

Inventor: ALLEN; ALLEN C G; ALLEN G C; DRAPPEL S V; RAYMOND; SMITH P F;  
TUREK C M; WONG R W

Patent Family (7 patents, 40 countries)

Patent Number	Application					
	Kind	Date	Number	Kind	Date	Update
US 6858070	B1	20050222	US 2003722162	A	20031125	200530 B
EP 1535973	A1	20050601	EP 200426870	A	20041111	200536 E
JP 2005154774	A	20050616	JP 2004339789	A	20041125	200539 E
CA 2488086	A1	20050525	CA 2488086	A	20041118	200541 E
BR 200405150	A	20050712	BR 20045150	A	20041124	200547 E
CN 1629229	A	20050622	CN 200410095372	A	20041124	200563 E
EP 1712601	A1	20061018	EP 200426870	A	20041111	200669 E
			EP 200612642	A	20041111	

Priority Applications (no., kind, date): US 2003722162 A 20031125

#### Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 6858070	B1	EN	19	0	
EP 1535973	A1	EN			
JP 2005154774	A	JA	18		
CA 2488086	A1	EN			
BR 200405150	A	PT			
EP 1712601	A1	EN			Division of application EP 200426870

Division of patent EP 1535973

Regional Designated States,Original: DE FR GB

Alerting Abstract US B1

NOVELTY - An ink composition comprises an ink carrier comprising a monoamide and/or a tetra-amide, a polyalkylene succinimide, and pigment particles.

DESCRIPTION - INDEPENDENT CLAIMS are also included for:

- 1.a process comprising incorporating into an ink jet printing apparatus a phase change ink, melting the ink, and causing droplets of the melted ink to be ejected in an imagewise pattern onto a substrate; and
- 2.an ink set comprising a first ink comprising an ink carrier, a polyalkylene succinimide, and pigment particles; and a second ink comprising a dye colorant and a second ink carrier, where the first ink carrier contains the same components as the second ink carrier.

USE - For color printing, postal marking, industrial marking, and labeling.

ADVANTAGE - The ink composition exhibits reduced clogging of jets in the print head failure and reduced print head failure that might be caused by agglomeration of the pigments colorant in the ink.

#### Technology Focus

ORGANIC CHEMISTRY - Preferred Material: The monoamide is stearamide, behenamide, oleamide, erucamide, behenyl behenamide, stearyl stearamide, stearyl erucamide, erucyl erucamide, oleyl palmitamide, and/or erucyl stearamide. It is of formula  $C_xH_y-C(=O)-NH_2H_b$ . The tetra-amide is of formula  $R_1-C(=O)-N(R_a)-R_2-N(R_b)-C(=O)-R_3-C(=O)-N(R_c)-R_4-N(R_d)-C(=O)-R_5$ .

x= 5-21;

y= 11-43;

a= 6-22;

b= 13=45;

Ra-Rd= H, optionally substituted alkyl, aryl, arylalkyl, or alkylaryl;

R2-R4= optionally substituted alkylene, arylene, arylalkylene, alkylarylene, or preferably -CH<sub>2</sub>CH<sub>2</sub>-;

R1,R5= optionally substituted alkyl, aryl, arylalkyl, alkylaryl, or preferably -(CH<sub>2</sub>)<sub>16</sub>CH<sub>3</sub>.

Preferred Composition: The monoamide is stearyl stearamide and present in the carrier in an amount of 8-32 wt.%. The tetra-amide is a dimer acid based tetra-amide that is the reaction product of dimer acid, ethylene diamine, and a long chain hydrocarbon having greater than 36C and having a terminal carboxylic acid group, and present in the carrier in an amount of

10-32 wt.%. Preferred Property: The ink has a conductivity of greater than  $1 \times 10^{-8}$ - $3.5 \times 10^3$  Siemens/cm.

POLYMERS - Preferred Composition: The ink further comprises a polyethylene \*\*\*wax\*\*\* (25-60 wt.%), a urethane resin (6-16 wt.%) derived from the reaction of two equivalents of \*\*\*hydroabietyl\*\*\*\*\*alcohol\*\*\* and one equivalent of isophorone diisocyanate, a urethane resin (2-13 wt.%) that is the adduct of three equivalents of stearyl isocyanate and a glycerol-based alcohol, and an antioxidant (0.01-1 wt.%). The polyalkylene succinimide is present in the ink in an amount of  $1 \times 10^{-7}$ -40 wt.%. The pigment is present in the ink in an amount of 0.1-50 wt.%. Preferred Material: The polyalkylene succinimide is of formula (I).

x,y= 1-3;

n= 2-500;

R1= alkyl, aryl, arylalkyl, or  
alkylaryl;

R2-R5= H or alkyl.

#### Extension Abstract

EXAMPLE - Pigment Dispersion (380.07 g) and Oronite OLOA 11000 (RTM: \*\*\*polysisobutylene\*\*\* succinimide) (11.25 g) were melted in a Beaker 1. In Beaker 2 were melted KEMAMIDE S-180 (RTM: stearyl stearamide) (648 g) and NAUGARD N445 antioxidant (2.25 g). In Beaker 3 were melted POLYWAX 655 polyethylene \*\*\*wax\*\*\* (961.2 g), urethane resin (270.32 g) obtained from the reaction of two equivalents of ABITOL E (\*\*\*hydroabietyl\*\*\* \*\*\*alcohol\*\*\*) and one equivalent of isophorone diisocyanate, urethane resin (114.7 g) that was the adduct of three equivalents of stearyl isocyanate and a glycerol-based alcohol, and NAUGARD N445 antioxidant (2.25 g). Beakers 1, 2, and 3 were kept in an oven at 135 (deg)C for 1 hour. The pigment dispersions of the beakers were stirred, and subjected to high shear mixing. The resulting ink composition was then filtered.

#### Class Codes

International Classification (Main): C09D-011/00  
(Additional/Secondary): B41J-002/01, B41M-005/00

International Classification (+ Attributes)

IPC + Level Value Position Status Version

B41J-0002/175 A I R 20060101

C09D-0011/00 A I R 20060101

C09D-0011/00 A I F B 20060101

B41J-0002/175 C I R 20060101

C09D-0011/00 C I R 20060101  
 US Classification, Issued: 106031750, 106031610

7/34/3 (Item 3 from file: 350)  
 DIALOG(R) File 350:Derwent WPIX  
 (c) 2007 The Thomson Corporation. All rts. reserv.

0014403703

WPI ACC NO: 2004-593465/200457

Grip \*\*\*wax\*\*\* for applying to skis comprises \*\*\*rosin\*\*\* \*\*\*alcohol\*\*\*,  
 \*\*\*wax\*\*\* and predetermined amount of high-molecular weight  
 \*\*\*polyisobutylene\*\*\* base

Patent Assignee: STARTEX OY (STAR-N); JARVINEN J (JARV-I)

Inventor: JAERVINEN J; JARVINEN J

Patent Family (6 patents, 107 countries)

Patent Application

Number	Kind	Date	Number	Kind	Date	Update	
WO 2004065506	A1	20040805	WO 2004FI36	A	20040126	200457	B
FI 200300114	A	20040725	FI 2003114	A	20030124	200461	E
FI 115219	B1	20050331	FI 2003114	A	20030124	200523	E
NO 200503929	A	20050823	WO 2004FI36	A	20040126	200565	E
			NO 20053929	A	20050823		
EP 1587890	A1	20051026	EP 2004705096	A	20040126	200570	E
			WO 2004FI36	A	20040126		
US 20070003771	A1	20070104	WO 2004FI36	A	20040126	200703	E
			US 2006543146	A	20060503		

Priority Applications (no., kind, date): FI 2003114 A 20030124

#### Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
WO 2004065506	A1	EN	12	0	

National Designated States,Original: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Regional Designated States,Original: AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW

FI 115219 B1 FI Previously issued patent FI 200300114

NO 200503929 A NO PCT Application WO 2004FI36

EP 1587890 A1 EN PCT Application WO 2004FI36

Based on OPI patent WO 2004065506

Regional Designated States,Original: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR

US 20070003771 A1 EN

PCT Application WO 2004FI36

**Alerting Abstract WO A1**

**NOVELTY** - A grip \*\*\*wax\*\*\* comprises a high-molecular weight \*\*\*polyisobutylene\*\*\* base, \*\*\*rosin\*\*\* \*\*\*alcohol\*\*\* or various modifications as grip material; and \*\*\*wax\*\*\* as glide material. The grip \*\*\*wax\*\*\* contains more than 50% high-molecular weight \*\*\*polyisobutylene\*\*\* base.

**DESCRIPTION** - INDEPENDENT CLAIMS are also included for:

- 1.a method for applying grip \*\*\*wax\*\*\* of skis to ski bases by using a grip \*\*\*wax\*\*\* comprising melting grip \*\*\*wax\*\*\* to form a thin, uniform film onto a transfer substrate; preparing a strip of desired length and having the width of the ski; pressing the strip with the \*\*\*wax\*\*\* surface facing downwards against the ski base and pressing in place in ambient temperature without external heating; and withdrawing the transfer substrate from top of the \*\*\*wax\*\*\* film that stuck to the ski bases; and
- 2.a product for applying grip \*\*\*wax\*\*\* to skis consisting of a silicone-treated paper strip and a film of grip \*\*\*wax\*\*\* melted at the other end of the paper strip.

**USE** - For applying to skis (claimed).

**ADVANTAGE** - The grip \*\*\*wax\*\*\* of the invention is easy, fast and simple to use and applicable to a wide temperature range.

**Technology Focus**

**POLYMERS** - Preferred Composition: The grip \*\*\*wax\*\*\* contains more than 55, e.g. 60% high-molecular weight \*\*\*polyisobutylene\*\*\* base; 5-40, e.g. 15-25% \*\*\*rosin\*\*\* \*\*\*alcohol\*\*\*; and 5-40, e.g. 15-25% \*\*\*wax\*\*\*. The \*\*\*polyisobutylene\*\*\* base contains less than 6%, preferably less than 3% toughening binding agent. Preferred Material: The toughening agent is low-density polyethylene.

**ORGANIC CHEMISTRY** - Preferred Materials: The \*\*\*rosin\*\*\* \*\*\*alcohol\*\*\* is hydroabiethyl alcohol. The \*\*\*wax\*\*\* is \*\*\*paraffin\*\*\* or \*\*\*beeswax\*\*\*.

**MECHANICAL ENGINEERING** - Preferred Dimension: The thickness of the film of grip \*\*\*wax\*\*\* is 0.01-1 mm. Preferred Components: The paper strip and the film of grip \*\*\*wax\*\*\* on the surface are rolled-up. The product is a straight strip so that the film of grip \*\*\*wax\*\*\* is disposed between two paper strips.

**Extension Abstract**

**EXAMPLE** - A grip \*\*\*wax\*\*\* having 58% high-molecular weight \*\*\*polyisobutylene\*\*\*, 2% low density polyethylene, 20% hydroabiethyl alcohol, and 20% \*\*\*beeswax\*\*\* was melted and applied as a thin layer over the surface of a silicone-treated paper, from which it was moved to the ski bases in room temperature. A person used these skis more than 200 km with the temperature ranging from (circled plus)4(deg)C damp weather to (circled

minus)15(deg)C cold weather. The wear resistance of the \*\*\*wax\*\*\* was outstanding. The action of the ski \*\*\*wax\*\*\* had \*\*\*been\*\*\* outstanding in all conditions. Both grip and glide had been good and changeless during the whole test. After the test, the grip \*\*\*wax\*\*\* showed no considerable signs of abrasion.

## Class Codes

International Classification (Main): A63C-011/08  
 (Additional/Secondary): C09G-003/00

## International Classification (+ Attributes)

## IPC + Level Value Position Status Version

A63C-0011/08	A	I	R	20060101
C09G-0003/00	A	I	R	20060101
B32B-0027/10	A	I	L	20060101
B32B-0027/32	A	I	F	20060101
A63C-0011/00	C	I	R	20060101
C09G-0003/00	C	I	R	20060101

US Classification, Issued: 428447000, 428452000, 428521000, 428537500

7/34/4 (Item 4 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2007 The Thomson Corporation. All rts. reserv.

0007341387

WPI ACC NO: 1995-006364/199501

Solubilisation of topical drug preparations - by incorporation of 3-1-menthyl-oxy-1,2-propane-diol

Patent Assignee: HISAMITSU PHARM CO (HISM); HISAMITSU PHARM CO LTD (HISM)

Inventor: HIRANO M; NAKAGAWA A; NAKAGWA A; ODA H; SHOHO K; TATEISHI T

Patent Family (16 patents, 24 countries)

Patent		Application				
Number	Kind	Date	Number	Kind	Date	Update
WO 1994026309	A1	19941124	WO 1994JP800	A	19940518	199501 B
AU 199466579	A	19941212	AU 199466579	A	19940518	199521 E
JP 6525249	X	19950803	JP 1994525249	A	19940518	199539 E
			WO 1994JP800	A	19940518	
EP 698393	A1	19960228	EP 1994915266	A	19940518	199613 E
			WO 1994JP800	A	19940518	
EP 698393	A4	19961127	WO 1994US5412	A	19940513	199713 E
AU 676562	B	19970313	AU 199466579	A	19940518	199719 E
CN 1124014	A	19960605	CN 1994192154	A	19940518	199747 E
US 5725874	A	19980310	WO 1994JP800	A	19940518	199817 E
			US 1995553615	A	19951116	
JP 2852816	B2	19990203	JP 1994525249	A	19940518	199910 E
			WO 1994JP800	A	19940518	
TW 386033	A	20000401	TW 1994104284	A	19940512	200057 E
KR 201424	B1	19990615	WO 1994JP800	A	19940518	200060 E

EP 698393	B1	20020703	KR 1995705166	A 19951118		
			EP 1994915266	A 19940518	200243	E
DE 69430917	E	20020808	WO 1994JP800	A 19940518		
			DE 69430917	A 19940518	200259	E
			EP 1994915266	A 19940518		
ES 2176244	T3	20021201	WO 1994JP800	A 19940518	200305	E
CA 2163003	C	20030128	CA 2163003	A 19940518	200319	E
CN 1116900	C	20030806	WO 1994JP800	A 19940518		
			CN 1994192154	A 19940518	200549	E

Priority Applications (no., kind, date): JP 1993139224 A 19930519

#### Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes	
WO 1994026309	A1	JA	58	1		
National Designated States,Original:					AU CA CN JP KR US	
Regional Designated States,Original:					AT BE CH DE DK ES FR GB GR IE IT LU	
MC NL PT SE						
AU 199466579	A	EN			Based on OPI patent	WO 1994026309
JP 6525249	X	JA		0	PCT Application	WO 1994JP800
					Based on OPI patent	WO 1994026309
EP 698393	A1	EN	48	1	PCT Application	WO 1994JP800
					Based on OPI patent	WO 1994026309
Regional Designated States,Original:					AT BE CH DE DK ES FR GB GR IE IT LI	
NL PT SE						
EP 698393	A4	EN				
AU 676562	B	EN			Previously issued patent	AU 9466579
US 5725874	A	EN	20	1	Based on OPI patent	WO 1994026309
					PCT Application	WO 1994JP800
JP 2852816	B2	JA	20		Based on OPI patent	WO 1994026309
					PCT Application	WO 1994JP800
					Based on OPI patent	WO 1994026309
TW 386033	A	ZH				
KR 201424	B1	KO			PCT Application	WO 1994JP800
EP 698393	B1	EN			PCT Application	WO 1994JP800
					Based on OPI patent	WO 1994026309
Regional Designated States,Original:					AT BE CH DE DK ES FR GB GR IE IT LI	
NL PT SE						
DE 69430917	E	DE			Application	EP 1994915266
					PCT Application	WO 1994JP800
					Based on OPI patent	EP 698393
					Based on OPI patent	WO 1994026309
ES 2176244	T3	ES			Application	EP 1994915266
					Based on OPI patent	EP 698393
CA 2163003	C	EN			PCT Application	WO 1994JP800
					Based on OPI patent	WO 1994026309

**Alerting Abstract WO A1**

Drug preparations for topical application may be solubilised by incorporation of 0.001-20% wt. of 3-1-methyloxy-1,2-propanediol (I).

Pref. the preparation contains a drug intended for transdermal absorption (e.g. diclofenac, ketoprofen, flurbiprofen, suprofen, ketorolac, ibuprofen, indomethacin, prednisolone or dexamethasone) and 0.1-20% wt of (I) is present. The formulation may be a pap (contg. water-soluble high polymer, higher alcohol and water as well as drug and (I)); ointment (contg. rosin ester, styrene-isoprene/styrene block copolymer, acrylate adhesive and softening agent); soft ointment (contg. higher fatty acid or ester, surfactant, hydrocarbon); etc.

USE - Incorporation of (I) gives a topical drug preparation with improved transdermal absorption of active ingredient.

**Documentation Abstract**

Drug preparations for topical application may be solubilised by incorporation of 0.001-20% wt. of 3-1-methyloxy-1,2-propanediol (I).

USE - Incorporation of (I) gives a topical drug preparation with improved transdermal absorption of active ingredient.

PREFERRED PREPARATION - The preparation contains a drug intended for transdermal absorption (e.g. diclofenac, ketoprofen, flurbiprofen, suprofen, ketorolac, ibuprofen, indomethacin, prednisolone or dexamethasone) and 0.1-20% wt of (I) is present.

FORMULATION - The formulation may be a pap (contg. water-soluble high polymer, higher alcohol and water as well as drug and (I)); ointment (contg. rosin ester, styrene-isoprene/styrene block copolymer, acrylate adhesive and softening agent); soft ointment (contg. higher fatty acid or ester, surfactant, hydrocarbon); gel (contg. lower alcohol, water, gelling agent and neutralising agent); cream (contg. higher fatty ester, water, hydrocarbon and emulsifier); cream-gel (contg. higher fatty ester, lower alcohol, emulsifier, neutralising agent and gelling agent); lotion (contg. lower alcohol, water and/or glycol); patch (contg. glycol, lower alcohol, water, water soluble polymer; fatty alcohol, polyvalent alcohol; \*\*\*paraffin\*\*\*, silicone); liniment (contg. alcohol, water, fatty acid ester); aerosol (contg. lower alcohol, water, and dimethyl ether and/or liquefied petroleum gas); or a fat-soluble powder (contg. 0.001-5% (I)).

EXAMPLE - An ointment contains styrene/isoprene/styrene block copolymer (Califlex TR-1107) 20.0% (wt) [20.0%]; liquid \*\*\*paraffin\*\*\* 43.5% [43.5%]; \*\*\*polyisobutylene\*\*\* (Vistanex) 10.0% [10.0%]; rosin ester (K-311) 21.5% [25.5%]; (I) 4.0% [0.0%]; and diclofenac 1.0% [1.0%]. (The figures in square brackets are for a comparison ointment formulated without (I)). Six healthy human volunteers have the ointment or comparison ointment applied to three cm<sup>2</sup> areas on the upper back. After 8 hours the remaining ointment is recovered, extracted into THF and the diclofenac remaining measured by HPLC. The amount of diclofenac absorbed is calculated. The Figure shows the results: ca. 12% absorption with the ointment vs. ca. 2.5% using the comparison ointment.

&lt;img

src="http://imagesrv.dialog.com/imanager/getimage?ref=I05681440535a11dab90a00008361346f&f=351&type=PNG" width="1216" height="1552"/>

Class Codes

International Classification (Main): A61K-031/045, A61K-047/10  
(Additional/Secondary): A61K-009/06

International Classification (+ Attributes)

IPC + Level Value Position Status Version

A61K-0047/10 A I R 20060101  
A61K-0009/70 A I R 20060101  
A61K-0047/10 C I R 20060101  
A61K-0009/70 C I R 20060101

US Classification, Issued: 424443000, 424447000, 424448000, 424449000,  
424401000, 424045000, 514937000, 514944000, 514945000, 514969000

? T S7/7,DE/5

7/7,DE/5 (Item 1 from file: 953)

DIALOG(R) File 953:Ei EnCompassPat(TM)

(c) 2007 Elsevier Eng. Info. Inc. All rts. reserv.

0399860 EnCompassPat Document No.: 200420800 Derwent WPI Accession No.:  
04-593465

Grip \*\*\*wax\*\*\* for applying to skis comprises \*\*\*rosin\*\*\* \*\*\*alcohol\*\*\*,  
\*\*\*wax\*\*\* and predetermined amount of high-molecular weight  
\*\*\*polyisobutylene\*\*\* base

Patent Assignee: STARTEX OY

Patent (CC, No, Date): WO 2004065506 040805

Designated States: AE; AG; AL; AM; AT; AU; AZ; BA; BB; BG; BR; BW; BY; BZ;  
CA; CH; CN; CO; CR; CU; CZ; DE; DK; DM; DZ; EC; EE; EG; ES; FI; GB; GD;  
GE; GH; GM; HR; HU; ID; IL; IN; IS; JP; KE; KG; KP; KR; KZ; LC; LK; LR;  
LS; LT; LU; LV; MA; MD; MG; MK; MN; MW; MX; MZ; NA; NI; NO; NZ; OM; PG;  
PH; PL; PT; RO; RU; SC; SD; SE; SG; SK; SL; SY; TJ; TM; TN; TR; TT; TZ;  
UA; UG; US; UZ; VC; VN; YU; ZA; ZM; ZW; AT; BE; BG; BW; CH; CY; CZ; DE;  
DK; EA; EE; ES; FI; FR; GB; GH; GM; GR; HU; IE; IT; KE; LS; LU; MC; MW;  
MZ; NL; OA; PT; RO; SD; SE; SI; SK; SL

Int Pat Class: SZ TR TZ UG ZM; W)

Ei EnCompassPat Bulletin Headings: PETROLEUM PRODUCTS; PETROLEUM REFINING  
AND PETROCHEM; \*\*\*WAXES\*\*\*

Abstract:

NOVELTY - A grip \*\*\*wax\*\*\* comprises a high-molecular weight  
\*\*\*polyisobutylene\*\*\* base, \*\*\*rosin\*\*\* \*\*\*alcohol\*\*\* or various  
modifications as grip material; and \*\*\*wax\*\*\* as glide material. The  
grip \*\*\*wax\*\*\* contains more than 50% high-molecular weight  
\*\*\*polyisobutylene\*\*\* base. DETAILED DESCRIPTION - INDEPENDENT CLAIMS  
are also included for: (1) a method for applying grip \*\*\*wax\*\*\* of skis  
to ski bases by using a grip \*\*\*wax\*\*\* comprising melting grip  
\*\*\*wax\*\*\* to form a thin, uniform film onto a transfer substrate;

preparing a strip of desired length and having the width of the ski; pressing the strip with the \*\*\*wax\*\*\* surface facing downwards against the ski base and pressing in place in ambient temperature without external heating; and withdrawing the transfer substrate from top of the \*\*\*wax\*\*\* film that stuck to the ski bases; and (2) a product for applying grip \*\*\*wax\*\*\* to skis consisting of a silicone-treated paper strip and a film of grip \*\*\*wax\*\*\* melted at the other end of the paper strip. USE - For applying to skis (claimed). ADVANTAGE - The grip \*\*\*wax\*\*\* of the invention is easy, fast and simple to use and applicable to a wide temperature range. Dwg.0 (12pp Dwg.No.0/0)

Index Terms: 2-METHYLPROPENE HOMOPOLYMER; ADDITIVE; ADHESION; \*ANIMAL \*\*\*WAX\*\*\*; BRANCHED CHAIN; C2 MONOMER; C4 MONOMER; COATING MATERIAL; \*COATING PROCESS; COMPOUNDS; DENSITY; ETHYLENE HOMOPOLYMER; FAST; FILM; FILM FORMATION; HIGH MOLECULAR WEIGHT; HOMOPOLYMER; HYDROCARBON; LIQUEFACTION; LOW DENSITY; MATERIALS TESTING; MECHANICAL PROPERTY; MELTING; MOLECULAR WEIGHT; MONOHYDROXY; MONOOLEFINIC MONOMER; OXYGEN ORGANIC; PAPER; \*\*\*\*PARAFFIN\*\*\* \*\*\*WAX\*\*\*; \*PETROLEUM \*\*\*WAX\*\*\*; PHASE CHANGE; PHYSICAL PROPERTY; POLYSILOXANE; SILICON ORGANIC; SINGLE STRUCTURE TYPE; TERMINAL OLEFINIC MONOMER; TOUGHNESS; UNSATURATED CHAIN MONOMER; VELOCITY; \*\*\*\*WAX\*\*\*; WEAR RESISTANCE